

PERMANENT REFERENCE

CHARACTERIZATION AND EVALUATION OF CHILLI
(*Capsicum annum* L.) VARIETIES

BY

SRIRANJINIDEVI SHANMUGALINGAM

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APPROVED BY

V. Arulnandy
SUPERVISOR
DR. V. ARULNANDY
SENIOR LECTURER AND PLANT BREEDER
DIVISION OF AGRIC BIOLOGY
FACULTY OF AGRICULTURE
EASTERN UNIVERSITY, SRI LANKA
CHENKALADY
DATE: 17/03/97

< 4390

T. Mahendran
HEAD/AGRONOMY

DR. (MRS). T. MAHENDRAN
FACULTY OF AGRICULTURE
EASTERN UNIVERSITY, SRI LANKA
CHENKALADY

DATE: 17/3/97

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ABSTRACT

An experiment was carried out at the Agronomy farm of the Eastern University, Vantharumoolai, in order to identify the most suitable chilli (hot pepper) varieties to grow on regosols under the conditions prevailing in the Eastern region of Sri Lanka.

Ten hot pepper varieties namely BL-39, BG-1, Kunja, PBC-592, Pant C-1, PSP-11, KA-11, Jatilaba, LV-2722, KKKU and Sheetal were evaluated along with BL-39 used as a check variety. All the Varieties were planted in a Randomized Complete Block design (RCBD) with three replications and were managed under the recommended cultural practices.

The data on Canopy height at 100% flowering, Canopy height at first harvest, Canopy width at 100% flowering, Canopy width at first harvest, Days to 100% flowering, Days to first ripening, Fruit length, Fruit girth, Fruit weight, Number of fruit per plant, Total fresh fruit yield and Total dry weight of fruits were collected in this experiment and data were statistically analysed to determine the level of significance. Varieties tested in this study showed significant differences in growth parameters, such as canopy height at 100% flowering and at first harvest, canopy width at 100% flowering and at first harvest, days to 100% flowering, days to first ripening and in yield components such as fruit length, fruit girth, number of fruits per plant and also total fresh and dry fruit yield.

The correlation studies revealed that some characters studied were positively correlated. They were canopy width at 100% flowering and yield; Canopy width at first harvest and yield; Canopy height at 100% flowering and canopy height at first harvest; canopy width at 100% flowering and canopy width at first harvest; fruit length and fruit weight; fruit girth and fruit weight; days to 100% flowering and days to first ripening. Negatively correlated characters were, days to first ripening and yield; fruit length and number of fruit per plant; fruit girth and number of fruit per plant; fruit weight and number of fruit per plant. Rest of the characters did not show any significant association.

By and large, it is clearly seen that among the varieties tested a wider variation does exist in several traits of agronomic importance and hence, selection may be positively approached for particular characters which may contribute to the development of varieties for a specific environment, although yield and disease resistance are the first and foremost criteria.

Considering the results of the investigation as a whole it is suggested that varieties KA-11 and Kunja are the most suitable ones identified to grow on regosols under the conditions prevailing in the Eastern region of Sri Lanka, mainly during dry season under irrigation, which were conditions under which the varieties were tested. These varieties showed outstanding performance in many of the agronomic characters; especially pod yield, reaction to biological component of the environment, particularly diseases and pests, and pod quality.

To establish identity of each variety the most important morphological characters were studied. This study showed that each variety possessed unique set of morphological characters that were different from each other. Hence each variety has its own identity which is a useful guide to use in the improvement programme as well as in varietal maintenance.

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